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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,954	02/01/2000	Roger A. McCurdy	TRW(TE)4170	4158
26294	7590	12/11/2003	EXAMINER	
TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 526 SUPERIOR AVENUE, SUITE 1111 CLEVEVLAND, OH 44114			LUM, LEE S	
			ART UNIT	PAPER NUMBER

3611

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/494,954

Applicant(s)

MCCURDY, ROGER A.

Examiner

Ms. Lee S. Lum

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. A Response was filed 10/6/03.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2A. **Claims 1-5, 7-19, 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable Thompson et al 6020812 in view of Feldmaier 4842301.

Re **Claims 1-5, 7, 8, 10, 11, 14-16 and 22**, Thompson discloses system 10 for protecting a vehicle occupant comprising

crash zone sensor/accelerometers 48,
side crush zone sensors 50,
occupant protection devices 42, and,
controller 180 controlling actuation of the protection devices in response to the various sensors separately indicating the occurrence of a deployment crash event.

The reference does not disclose an acoustic safing sensor (inherently omni-directional) that detects acoustic waves propagating through the vehicle structure, while Feldmaier shows this element 15/16 in a similar occupant protection system depicted in fig 2. While the multi-sensor system depicted in Thompson is functionally equivalent, it would have been obvious to one with ordinary skill in the art at the time the invention was made to include an acoustic sensor, as shown in Feldmaier, as another embodiment to increase the accuracy and efficiency of the occupant protection system, this objective extremely well-known in the art.

Re **Claims 9, 12 and 13**, the references do not specify that the acoustic sensor and accelerometer form a portion of a module, but it would have been obvious to one with ordinary skill in the art at the time the invention was made to include this particular arrangement to decrease design and manufacturing costs (i.e., a single unit for both sensors), and provide easy access to either, or both sensors.

Re **Claims 17-19 and 21**, the references further disclose a method for controlling an occupant protection device, the steps derived from the structure and means discussed above.

2B. **Claims 6 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable Thompson in view of Feldmaier, and in further view of Breed et al 5441301.

The previous references do not disclose a front crush zone sensor that measures deformation of the front of the vehicle, while Breed shows this type of sensor 101 in the front of the vehicle. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this sensor at this location, as shown in Breed, to further increase the accuracy of the protection system, thus increase passenger safety in case of a crash event.

3. RESPONSE TO REMARKS

Re Claims 1-4, 10, 14, 17 and 22, Examiner reiterates her rejections using Ross under 35 USC 102(e) because it clearly discloses the recited elements. Applicant's remarks on pp 12-13 re Ross' "failure" to meet the present recitations are (again) unclear because the reference clearly states, in col 4, line 49, to col 5, line 16, that separate signals, from both acoustic sensors 16, and accelerometer 12, are processed by the controller to determine proper activation of the airbags. Contrary to Applicant's arguments, in col 5, lines 6-16, Ross provides that both types of sensors are utilized so to determine actuation of the airbag "quicker", in contrast to the implied slower reaction if only one sensor (the accelerometer) is used. It is unclear why Applicant continues to belabor these issues when the reference CLEARLY obviates the recited limitations in these claims.

On pp 13-14, Applicant argues that Ross fails to disclose an "acoustic safing sensor". Examiner employs the definition kindly provided by the Applicant on p 13, and maintains sensors 14 are in fact this type of sensor. Again, in combination with the accelerometer, these sensors provide separate signals to determine actuation of the airbag.

Alternately, Claims 1-4, 10, 14, 17 and 22, as well as most remaining Claims, are rejected under 35 USC 103(a) with Thompson in view of Feldmaier, as provided above. Rejections have been slightly rearranged and/or modified to obviate the limitations.

On p 14, Applicant remarks that Thompson "provides no details as to how the [controller] determines the occurrence of a...crash event." Although it is not stated, it is implied, and understood, that the controller employs all signals from the various sensors to determine actuation. This arrangement is extremely well-known in the art, and it is unclear why Applicant wishes to argue this point.

On p 15, it is argued that Feldmaier fails to teach a controller, and its exact function. It is clear that Applicant is proposing a piecemeal analysis of each separate reference, when the combination is clearly intended. See In re Keller, 208 USPQ 871 (CCPA 1981).

Also on that page, it is argued that either reference fails to teach a "safing sensor". On the contrary, Feldmaier's acoustic sensor is indeed a "safing sensor" within the definition provided by the Applicant on p 13.

On p 16, Examiner rejects Applicant's "request" for an affidavit to support the motivation for combining Thompson and Feldmaier. Applicant's supposition that Examiner has "personal knowledge" to offer a motivation (his implication being that it is patently nonexistent) is interesting in light of the vast multitude of references which disclose a combination, or combinations, of different sensors. It is clear that a large number of different sensors are in fact unnecessary for actuation, but is preferred to increase the accuracy of the system, and to provide redundancy. Therefore, it is rebutted that motivation does exist to combine the references, and in fact, this motivation is very well-known. Applicant's remarks in this situation appear groundless, almost nonsensical.

With respect to Claims 6 and 20, Thompson in view of Feldmaier, and in further view of Breed et al 5441301, obviates the limitation of a "front crush zone sensor".

4. Communication with the Examiner and USPTO

Any inquiry concerning this communication should be directed to Ms. Lum at (703) 305-0232, 9-530, M-F. Our fax number is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Assistance at (703) 306-5771.

Ms. Lee S. Lum
Examiner
12/5/03

A handwritten signature in black ink, appearing to be 'LS Lum', written in a cursive style.